

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent Application Ser. No.:

Group Art Unit:

Filing Date: Concurrently

Examiner:

Attorney Docket Number: US 010176

Inventor Name(s): LEE ET AL.

Title: N-VIEW SYNTHESIS FROM MONOCULAR VIDEO OF CERTAIN BROADCAST
AND STORED MASS MEDIA CONTENT

Honorable Commissioner of Patents And Trademarks
Washington DC 20231

PRELIMINARY AMENDMENT

Sir:

Prior to examination, please amend the application as follows:

IN THE CLAIMS

Please add the following new claims:

11. An image processing device comprising

- an input for receiving at least one monocular video input image;
- at least one processor adapted to perform the following operations
 - segmenting at least one foreground object from the input image;
 - applying at least one respective transformation to each segmented object and to the background, for each of a plurality of output images;
 - deriving the plurality of output images from the results of the respective transformations.

12. The ^{device}~~method~~ of claim 11, wherein the operations further comprise second segmenting at least one background object from the input image and applying a respective transformation to each segmented background object for each of the plurality of output images.

13. The device of claim 11, wherein

- there are two output images and
- the operations further comprise, in order to create the two output images:
 - applying two respective transformations to each segmented object and
 - further applying two transformations are applied to the background.

14. The device of claim 11, further comprising a combining display unit adapted to receive and display the plurality of output images, so that the plurality of output images are perceivable by a user as a single image having enhanced three dimensional appearance.

15. The device of claim 11, wherein the respective transformations applied to the foreground object make the foreground object stand out from the background.

16. The device of claim 15, wherein

- the receiving comprises receiving a multiplicity of monocular input images;
- the deriving comprises deriving a respective plurality of output images for each of the monocular input images;
- the device further comprises a combining display unit for receiving and displaying the respective pluralities of output images, so that the respective pluralities of output images are

perceivable by a user as a sequence of single images giving an illusion of motion and having an enhanced three dimensional appearance in which the at least one foreground object moves separately from the at least one background object.

17. The device of claim 16, wherein the at least one foreground object appears to move in the output images, while at least a portion of the rest of the image appears not to move.
18. The device of claim 11, wherein the segmenting and applying operations involve using domain knowledge to recognize positions of expected objects in the monocular input image and derive positions of objects in the output images..
19. The device of claim 11, wherein the respective transformations for background pixels are derived by comparing at least two monocular input images of a single scene.
20. The device of claim 11, wherein the operations further comprise, prior to applying the transformation, approximating a position of each segmented object as appearing on a fronto-parallel plane.
21. At least one medium readable by a data processing device and embodying code for causing execution of the following operations:
 - receiving at least one monocular video input image;
 - segmenting at least one foreground object from the input image;
 - applying at least one respective transformation to each segmented object and to the background, for each of a plurality of output images;

- deriving the plurality of output images from the results of the respective transformations.

22. The medium of claim 21, wherein the operations further comprise second segmenting at least one background object from the input image and applying a respective transformation to each segmented background object for each of the plurality of output images.

23. The medium of claim 21, wherein there are two output images and two respective transformations are applied to each segmented object and two transformations are applied to the background to create the two output images.

24. The medium of claim 21, wherein the operations further comprise displaying the plurality of output images in a combining device, so that the plurality of output images are perceivable by a user as a single image having enhanced three dimensional appearance.

25. The medium of claim 21, wherein the respective transformations applied to the foreground object make the foreground object stand out from the background.

26. The medium of claim 25, wherein

- the receiving comprises receiving a multiplicity of monocular input images;
- the deriving comprises deriving a respective plurality of output images for each of the monocular input images;
- the operations further comprise displaying the respective pluralities of output images in a combining device, so that the respective pluralities of output images are perceivable by a user as a sequence of single images giving an illusion of motion and having an enhanced three

dimensional appearance in which the at least one foreground object moves separately from the at least one background object.

27. The medium of claim 26, wherein the at least one foreground object appears to move in the output images, while at least part of the rest of the image appears not to move.

28. The medium of claim 21, wherein the segmenting and applying involve using domain knowledge to recognize positions of expected objects in the monocular input image and derive positions of objects in the output images..

29. The medium of claim 21, wherein the respective transformations for background pixels are derived by comparing at least two monocular input images of a single scene.

30. The medium of claim 21, further comprising, prior to applying the transformation, approximating a position of each segmented object as appearing on a fronto-parallel plane.

REMARKS

This amendment adds apparatus and medium claims to the application.

Respectfully submitted,

By 

Anne E. Barschall, Reg. No. 31,089

Tel. no. 914-332-1019

April 9, 2001